Dry beans come in a variety of colors and sizes. Beans are found around the world, originating in several different locations. The common bean (*Phaseolus*), including kidney, pinto, navy, lima and others, originates in South America, the Andes and central America. Sub-tropical beans such as adzuki, mung and blackeye peas (*Vigna*) originated in Africa, while broad beans such as fava/faba beans (*Vicia faba*) are thought to have originated in the Fertile Crescent region.

Beans are treated similarly to other pulses like peas, lentils and chickpeas. Beans must be soaked prior to cooking. Common methods for cooking beans include canning, pressure cooking, or adding beans to soups. Add any acidic ingredients or those containing calcium or salt after beans have finished cooking, as these can prevent beans from becoming tender while cooking. While adding a small amount of baking soda to cooking water can help beans tenderize more quickly, in excess it negatively affects the flavor of beans and can destroy B-vitamins.
**BAKING**

The majority of the commercially available bean flour is pre-gelatinized, which makes it suitable for baking application. Wide varieties of bean flour enable the manufacturers to experiment with different types of beans for different baked goods. For example, when used in neutral flavored products such as vanilla cakes, white bean or navy bean flour is a good choice. On the other hand, black beans are favorable when used in brownies and chocolate cakes. Apart from the color, the neutral flavor of bean flour provides advantages as an ingredient.

**FRACTIONATION**

Starch, protein and fiber can be fractionated in the same manner as pea fractionated products. However, because the outer hull of beans is harder to remove than some other pulses (like dry peas and lentils), some fractionations from beans are less common, like fiber, while others are more common, like bean starch, which can be used to make noodles. This affects the commercial applications and products available.

**EXTRUSION**

Extrusion is a mechanical process in which materials are forced, under pressure, through a die opening to create products of a desired shape, size and/or texture. Due to its processing flexibility, extrusion cooking produces an incredibly broad range of food products in the cereal, dairy, bakery and confection industries. Pulse flours are often used as the basis for formulations that are extruded in low pressure systems. The flour is often mixed with starchy ingredients, like rice flour, to increase a starch level which enables ideal expansion. Extruded pulse-based products offer a crunchy texture, usually in the form of snacks and breakfast cereals, in a variety of shapes. Extrusion also can be used to produce pre-gelatinized flour by milling the extrusion overs back into flour.

**TIP:** Applications determine which flour to use. Know the application!